
Verifying a Meridian Companion installation

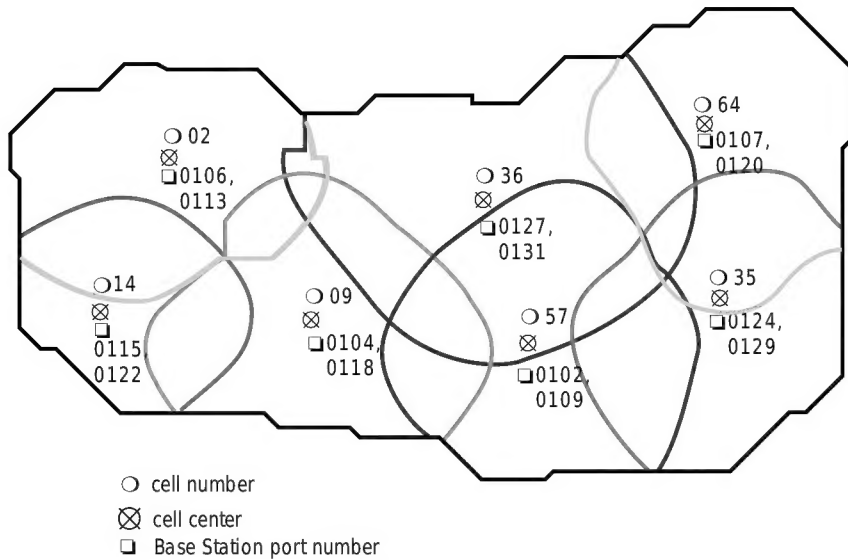
After the system has been activated, verify that it is operating as intended. Use the following list as a guide:

- Verify there are no unusual error log messages. If you see anything other than the normal event messages, refer to Table 33 on page 179.
- Verify that all the Base Stations radios are acting properly. They should now be in IDLE or CSC Radio state, if not, see “Troubleshooting a Base Station” on page 165. (See “Verifying Base Station status” on page 74.)
- Determine cell assignments and transcribe these onto the floor plan (see Figure 31 on page 96). See the procedure on page 97.
- Register a test portable, see “Registering and verifying portable telephones” on page 111.
- Enable the RSSI measurement feature. Refer to *Meridian Companion Portable Telephone Registration Instructions* for additional information.

Note: If you cannot establish a connection with a given radio, see “Troubleshooting a Base Station” on page 165.

- Using the floor plan as a guide, walk around the site, trying to pass through each cell while on a call to ensure that hand-off is occurring. Observe the RSSI on the portable display (see your *Meridian Companion Portable Telephone Registration Instructions*). The RSSI value should remain at or above the cell boundary value defined in the *Meridian Companion Site Planning Reference Manual*.

Figure 31: Floor plan with transcribed information



Note 1: The cell boundary value should be a high-power measurement. An H on the portable's display indicates the portable is transmitting in high-power mode (an L indicates low-power mode).

Note 2: RSSI measurements are displayed as negative values. The smaller the negative value the stronger the signal strength. For example, a signal strength of -60 dBm is stronger than one of -73 dBm.

If a significant area within the coverage area has an RSSI signal strength less than the cell boundary value, refer to *Meridian Companion Site Planning Reference Manual* to redeploy cell centers in the impacted area to fill the gap, or add an additional cell center if necessary.

ATTENTION!

If there is a serious deployment problem, call Northern Telecom Customer Response Center at 1-800-321-2649 to verify that you have approval from UTAM Inc. when initially installing wireless equipment or relocating wireless equipment. If not, note and proceed.

Failure to receive approval prevents you from enabling wireless communication on the Meridian Companion system.

You will need to provide the Companion ID each time you are requesting codes or credits.

A disabled wireless system means that Base Stations and portables are not operational, but registration information is retained. These TCM devices may be reactivated by returning the system to its previous configuration or by entering a UTAM Recovery Code. A new system is activated by entering a UTAM Activation Code.

Viewing radio and cell assignments

This procedure checks the integrity of the programming and should occur immediately after reevaluation.

All radios present on the system should now be assigned to a cell. If any radios are not assigned to a cell, check the Event/Alarm log to see if any Base Stations appear defective. Replace if necessary and repeat the reevaluation.

Check to make sure that Base Stations have been clustered into cells as indicated in the site plan. Add cell numbers and Base Station TCM addresses to the site plan. If there are inconsistencies, check the wiring to make sure that Base Stations are wired to the correct port, that the installation matches the deployment plan, and the site has not changed since the site deployment.

1. Enter Configuration programming.
2. Press ^ . The display shows 1. Telephony Data .
3. Press * . The display shows 2. Mobility Data .
4. Press ^ , then * until the display shows Cells .

5. Press ^ , then * until the display shows
Show cell: .
6. Enter the two-digit number of the first cell to be verified. (You can use BKSP to correct typing mistakes.)
The display shows Cell radios .
7. Press ^ . The display shows either No radio or ccuun asgnd .
8. Press * to see the next radio. Continue pressing the arrow to search through the radios.
9. Press ® to exit or % to continue.

Identifying a radio's cell assignment

To identify a radio's cell assignment:

1. Enter Configuration programming.
2. Press ^ then * until the display shows 2. Mobility Data .
3. Press ^ . The display shows Re-Evaluation .
4. Press * . The display shows Radios .
5. Press ^ . The display shows Radio credits .
6. Press * . The display shows Show radio: .
7. Enter the five-digit number of the radio you want to examine. The display shows Cell Assignment .
8. Press ^ . The display shows the cell to which this radio is assigned. The display will either show the radio number in cell nn or ccuun not asgnd .
9. Press * or & to search through the cell assignments of other radios.
10. Press % four times to return to 2. Mobility Data .

Configuring the Meridian 1 for the Meridian Companion system

Configuring portable telephones on a Meridian 1 system is similar to setting up 2500 telephones. You need to be familiar with the 2500 set configuration before you configure the Meridian 1 for the Meridian Companion system. If you have never configured 2500 sets on a Meridian 1 system, review the installation procedures in *Meridian 1 System Installation Procedures* before working with Meridian Companion portable telephones.

1. Verify the card status of the Meridian 1 system.
2. Change the ringer default using Table 15.

The ringer default determines the maximum number of telephones that can be in the ringing state at the same time. For analog phones, change the ringer default from 8 to 16 to ensure that portable telephones ring when receiving incoming calls.

Table 15: LD 97—Changing the ringer default parameters

Prompt	Response	Meaning
REQ	CHG	change or print peripheral equipment parameters
TYPE	XPE	shelf controller and super loop configuration
XPEC	0, 1-95, xx	assigns shelf controller number
LOC	xxxxxx	location code for shelf controller
MED	<cr>	connection media
RGTP	(8), 16	16 set to concurrent ringers

3. Enable class of service in LD 15.
4. Refer to X11 documentation to determine what release you have.

Note: For access to Meridian Companion privacy and extended features, you must have X11 release 20B with package 240 installed and enabled.

If you have X11 release 15 or greater without package 240, follow the instructions on page 100.

If you have release 20B or greater with package 240, follow the instructions on page 101.

5. Refer to “Programming options” on page 103 for information on the optional programming for different releases. If the customer chooses, the terminal number block (TNB) data can be printed using LD20. LD 81 (for systems running X11 release 20B software) can be used to print a listing of Meridian Companion wireless terminal numbers (WTNs), and LD 95 can be used to change, create, or remove the Call Party Name Display (CPND) name.

Each portable telephone can have its own business features and class of service. All portable telephones have access to 2500 set features available to wired users. For information on implementing features, refer to *X11 Features and Services*. Refer to *X11 Input/Output Guide* for a complete listing of all prompts associated with each LD.

X11 release 15 or greater without package 240

With X11 releases 15 through 21 without package 240 installed, configure the portable telephone as a 2500 set with Class of Service (CLS) set to DTN as shown in Table 16.

Use LD 20 to print the Terminal Number (TN) to verify that the configuration is correct. The portable telephone cannot receive CLID or CPND information. By specifying CLS = MWA, LPA activates the Message Waiting icon for a portable telephone.

Table 16:LD 10—X11 release 15 or greater without package 240: Configuring a TN for a portable

Prompt	Response	Meaning
REQ	NEW	new telephone
TYPE	2500	telephone type
TN	l s c u	terminal number
CDEN	4D	quadruple density
DES	a...x	ODAS telephone designator. Enter one- to six-character alphanumeric ODAS designator.
CUST	0–99	customer number
DIG	<cr>	
DN	xxx...x	directory number
MARP	YES/(NO)	use TN as the MADN redirection prime
CPND		
CLS	DTN	
CLS	XFA THFA	enabling transfer for the Transfer Radio Loss function

X11 release 20B or greater with package 240

Before programming, refer to the list of users in the *Meridian Companion Programming and Provisioning Record* for information needed to set the Multiple Call Arrangement Allowed/Multiple Call Arrangement Denied (MCRA/MCRD) Wireless Privacy feature.

To access Meridian Companion features such as CPND/CLID display and wireless privacy on the Meridian 1 system, package 240 must be installed and enabled, and WRLS set to YES.

If package 240 is not enabled, the WRLS prompt does not appear.

CNDA/CNDD and MCRA/MCRD cannot be accepted as values for CLS, and

an error message appears. (LD 83, available with X11 release 20B, prints a list of wireless sets.)

There is one exception to the package 240 requirement: if package 131 is on, MCRA/MCRD is an acceptable CLS value. If the package is not on, use the steps described in “X11 release 15 or greater without package 240” on page 100 to program the Meridian Companion portable telephones.

See Table 16 for the prompts and responses in LD 10 that apply to Meridian Companion. The defaults appear in parentheses and new prompts are bolded in Table 17.

Table 17: LD 10—X11 release 20B or greater with package 240: Configuring a WTN for a portable

Prompt	Response	Meaning
REQ	NEW	new telephone
TYPE	500	telephone type
TN	l s c u	terminal number
CDEN	4D	quadruple density
DES	PCI	FCC telephone designator
CUST	0–99	customer number
WRLS	YES/(NO)	indicates that the TN corresponds to a portable telephone; CLID is enabled as a default
DN	xxx...x	directory number assigned to the portable
CLS	CNDA/(CNDD)	user can see the name associated with the number dialed if CPND is set up for the customer
CLS	MCRA/(MCRD)	Multiple Call Arrangement Allowed (privacy)/Multiple Call Arrangement Denied (no privacy)
CLS	(DTN)	digital signaling used by portable telephone (this is the default only if WRLS = YES)
CLS	XFA THFA	enabling transfer for the Transfer Radio Loss function

Wireless telephone privacy

To implement Wireless Privacy for Meridian Companion:

1. Using LD 11, set KEY 0 to NUL (wired line set).
2. Using LD 10, set CLS to MCRA (wireless portable).
3. Using LD 11, set KEY 0 to MCR XXXX (wired line set).

Programming options

Use LD 20 to print Terminal Number Block data as shown in Table 18 and Table 19.

Table 18: LD 20—X11 releases 15 or greater without package 240: Printing values

Prompt	Response	Meaning
REQ	PRT	to print information
TYPE	500	telephone type
TN	I s c u	terminal number

Table 19: LD 20—X11 release 20B with package 240: Printing new values

Prompt	Response	Meaning
REQ	PRT	to print information
TYPE	500	telephone type
TN	I s c u	terminal number
WRLS	YES/(NO)	indicates that the TN corresponds to a portable telephone
CLS	CNDA/(CNDD)	user can see the name associated with the number dialed if CPND is set up for the customer
CLS	MCRA/(MCRD)	Multiple Call Arrangement Allowed (privacy)/Multiple Call Arrangement Denied (no privacy)
CLS	(DTN)	default digital signaling used by portable telephone

Use LD 81 to print a list of the wireless portable telephones used on the Meridian Companion system (available only with X11 release 20B or greater). Prompts for LD 81 appear in Table 20.

Table 20: LD 81—X11 release 20B with package 240: Printing features and station

Prompt	Response	Meaning
REQ	LST, CNT	
CUST	0–99 0–99	one customer or range of customers
FEAT	CNDA/ CNDD/ MRCA/ MCRD	features to be printed

Use LD 83 to print a list of Terminal Numbers or Terminal Number Blocks in designation (DES) order.

Table 21: LD 83—X11 release 20B with package 240: Printing TN and TNB

Prompt	Response	Meaning
REQ	LST, TNB	prints list of Terminal Numbers or Terminal Number Blocks in designated order
CUST	x, x–y, <cr>	one customer (x), range of customer numbers (x–y), all customers (<cr>)
DES	ABC	
New information to be printed:		
WRLS	YES/(NO)	indicates that this TN corresponds to a portable personal telephone
CLS	CNDA/(CNDD)	prints new CLS for WRLS
	MCRA/(MCRD)	Multiple Call Arrangement Allowed (privacy)/ Multiple Call Arrangement Denied (no privacy)
	DTN	default digit signaling used by portable personal telephone

Assign names to portables in the CPND data block in LD 95.

Table 22: LD 95—X11 releases 15–18: Adding, changing, or deleting a CPND name

Prompt	Response	Meaning
REQ	NEW/CHG/OUT	add, change, or delete a name
TYPE	NAME	CPND name
CUST	0–99	customer number
DIG	0–2045 0–99	existing Dial Intercom Group and member number
DN	xxxx	existing DN of eligible type
DCNO	0–254	IDC conversation table number

Table 23: LD 95—X11 release 19 or later: Adding, changing, or deleting a CPND

Prompt	Response	Meaning
REQ	NEW/CHG/OUT	add, change, or delete a name
TYPE	NAME	CPND name
CUST	0–99	customer number
DIG	0–2045 0–99	existing Dial Intercom Group and member number
_DISPLAY-FMT	(LAST), FIRS	display format for CPND names
DN	xxxx	existing DN of eligible type
_DISPLAY-FMT	(LAST), FIRS	display format for CPND names
DCNO	0–254	IDC conversation table number
_DISPLAY-FMT	(LAST), FIRS	display format for CPND names

Use LD 73 to define a new data block.

Table 24: LD 73—X11 release 20B: Defining, changing, or printing a data block

Prompt	Response	Meaning
REQ	NEW/CHG/PRT	New, change, or print
TYPE	PRI2/PRI	PRI data block
FEAT	PAD	Pad category
PDCA	1–16	Pad category table
...	...	
BRIT	Rx Tx	BRI trunk
WRLS	Rx Tx	Meridian Companion R = Receive T = Transmit x = pad value (0–26)

Programming user options

You can program the feature that controls call transfer on radio loss through the Administration Terminal or through Companion Manager. This section explains how to program the feature through the Administration Terminal. For information about programming this feature through Companion Manager, refer to *Companion Manager Installation and Operations Guide*.

Programming Call Transfer on Radio Loss

If a portable telephone user moves beyond radio range or if the battery in the portable telephone becomes weak, the call may be dropped. To keep calls from terminating abruptly, program the system so that it transfers dropped calls to another number.

There are three values for Transfer on Radio Loss:

- **None** (the default): Calls are not transferred.
- **Dflt**: Calls are transferred to the default for the system, for example, a receptionist.
- A specific number: Calls are transferred to the specified number, for example, an answering machine.

Note: There can be a delay of about 10 seconds between the time that the link is lost and the time that the call is transferred.

Programming a system default for radio loss handling

To program a system default telephone number for transferring a call on radio loss, enter an Administration programming session and do the following:

1. Press **f••** and enter the Administration password.
The display shows 1. Registration .
2. Press ***** . The display shows 2. User Options .
3. Press **^** . The display shows Radio loss hdlng .
4. Press **^** to specify a default telephone number. The display shows Change Default .
5. Press **^** . The display shows the default number or None .
6. Press CHANGE .
7. Enter up to 16 digits for the default phone number using 0 to 9 and * .
The * will add a two second pause. Use BKSP for corrections
8. Press OK to confirm the telephone number. The display shows Change Default .
9. Press **®** to exit.

Programming individual Transfer on Radio Loss

To program an individual telephone number for transferring a call on radio loss, enter an Administration programming session and do the following:

1. Press **f••** and enter the Administration password.
The display shows 1. Registration .
2. Press ***** . The display shows 2. User Options .
3. Press **^** . The display shows Radio loss hdlng .
4. Press **^** to specify a default telephone number. The display shows Change Default .
5. Press ***** . The display shows Change WTN: .
6. Enter the WTN. The display shows Wccuu: .

7. Press CHANGE to specify a new telephone number or press DFLT to specify the default telephone number. Enter up to 16 digits for the default phone number using 0 to 9 and *. The * will add a two second pause. The DFLT key label appears only if a default telephone number has previously been specified. Use BKSP for corrections.
8. Press OK to confirm the telephone number. The display shows Wccuu followed by the number.
9. Press * to go to the next WTN.

Note: If OK is pressed and no digits have been entered, the telephone number is deleted and Wccuu: None appears in the display. Go back to step 5.

Registering and verifying portable telephones

To register portable telephones to a system, you use the Administration Terminal or Companion Manager together with the portable.

This section describes registration and verification using the Administration Terminal. For information about how to register portables using Companion Manager, see the *Companion Manager Installation and Operations Guide*. For more information about the Administration Terminal, refer to the *Meridian Companion Administration Terminal Operations Guide*.

You can use the Administration Terminal to perform the following functions:

- enable registration (no portable telephones can be registered unless the system registration is enabled)
- check the status of each WTN
- deregister a WTN due to portable telephone loss or breakage
- check to make sure that sufficient credits are available

Before a portable will operate, it must be registered with the system. Ensure that you are within range of a Base Station when you register the portables.

Note: Each time a portable is registered, the number of available Portable Credits decreases by one. If a portable is deregistered, the number of available credits increases by one. See “Activating wireless communications” on page 89 for additional information.

When you distribute the portables, inform the users that the portables are registered and give them the corresponding slot numbers. Portables can be registered to a maximum of nine different Companion systems.

To register the portables you perform the following:

- Enable registration for the Meridian Companion system and ensure there are sufficient credits.
- Register the portables.
- Verify the operation of each portable.
- Disable registration for the Meridian Companion system.

Enabling and disabling registration

You must enable registration for the entire Meridian Companion system to allow individual portables to register. The options are Yes (Y) and No (N). Yes indicates that Master Registration is enabled. No is the default and indicates that Master Registration is not enabled.

Note: To prevent interference problems with neighboring systems, set the Master Registration to N when the portables are no longer being registered.

1. Press *f*••• and enter the Administration password. The display shows 1. Registration .
2. Press ^ . The display shows Mstr Reg Enbl: followed by the currently set Master Registration setting, Y or N .
3. To change to the other setting, press CHANGE .
4. To continue in Administration programming, press * , or to exit, press ® to exit.

Registering portable telephones

Refer to *Meridian Companion Portable Telephone Registration Instructions* for additional information.

Verifying a portable telephone's operation

After you register a portable you should

- verify the WTN
- verify the portable can make or receive calls
- conduct a signal strength test
- verify any optional features

To verify the WTN:

1. Open the portable flap.
2. Press **Ĭ** . The display shows FEATURE LIST .
3. Press **”** or **’** until the display shows Feature request .
4. Press **SELECT** . The display shows A- .
5. Press **° °** . The display shows the WTN for three seconds.

To verify the portable can make or receive calls:

1. Verify that the portable telephone has a dial tone. (Ensure that the portable telephone's twinned desk telephone, if any, is idle.)
2. From another telephone, dial the directory number that maps to the registered WTN.

If the portable telephone rings, it is functioning properly.

If the portable telephone does not ring, check the Meridian 1 programming to ensure that the WTN has the proper directory number assignment.

To conduct a signal strength test establish a connection with a radio, first ensure that you get a connection with the same radio. To do so, use Directed RSSI and measure the Receive Signal Strength Indicator (RSSI) level (see the user guide for the portable telephone for instructions on connecting to the radio). Replace any portable telephone whose reading is significantly different from the others.

Note: An RSSI value of -35 is the strongest (best) possible signal strength. As the signal fades, the absolute value of the RSSI number increases. The link drops as the value approaches 100.

Optional checks

If Transfer on Radio Loss has been programmed, verify that it is operating properly:

1. From another telephone, make a call to the portable telephone.
2. Remove the batteries and wait 10 seconds for the link to drop.

After the 10 seconds of silence, the calling telephone should hear ringback and the destination phone should ring, indicating the call has been transferred.

If the portable telephone does not appear to be operating correctly, see Table 30 on page 169.

Verifying Portable Credits

To verify the number of Portable Credits:

1. Enter Configuration programming.
2. Press *. The display shows B. Administration .
3. Press ^. The display shows 1. Registration .
4. Press ^. The display shows Mstr Reg Enbl: .
5. Press CREDITS . The display shows nnn Available and nnn Total .
Verify that the total number of Portable Credits is correct.

Note 1: Initially, the Total credits will equal the Available credits since you have not yet registered any of the portables. As you register each portable to the system, the number of available Portable Credits decreases by one.

Note 2: If the total number of Portable Credits is not enough for the system, you may need to obtain additional credits.

Deregistering the WTN

Refer to *Meridian Companion Administration Terminal Operations Guide*.